

## GOOD BEGINNINGS ARE NOT THE MEASURE OF SUCCESS: USING AN OUTCOMES LOGIC MODEL TO TRACK THE PROGRESS OF THE IRISH INTEGRATIVE LEARNING PROJECT

*Contributors: C. Anthony Ryan, Department of Paediatrics and Child Health; Bettie Higgs, Department of Geology and Ionaid Bairre, The Teaching and Learning Centre; Shane Kilcommins, Faculty of Law, University College Cork*

### Biographical Note

C. Anthony Ryan is Consultant Neonatologist at Cork University Maternity Hospital, HSE and an Associate Professor in the Department of Paediatrics and Child Health at University College Cork (UCC). He was one of the first graduates of the Masters in Teaching and Higher Education at UCC. Awards include the Presidents Award for Excellence in Teaching and Learning (2002) and an Irish Health Award (2009) for International Development and Health Systems improvement (Omdurman Maternity Hospital, Sudan). Professor Ryan has more than eighty peer reviewed research publications and a recent book chapter in the *Handbook of Reflection and Reflective Inquiry* (ed Nona Lyons, 2010).



Bettie Higgs is a lecturer in the Department of Geology at UCC. Her areas of interest include plate tectonics and the use of geophysics to investigate the subsurface. She is interested in the nature of learning, and the public understanding of science, and since 2002 she has also coordinated activities designed to support staff in their teaching and learning role in University College Cork. She was a 2005 Carnegie Scholar at the Carnegie Foundation for the Advancement of Teaching, and received an MA in Teaching and Learning in Higher Education in 2007. She is also an associate lecturer for The Open University, and she tutors geology to students in the Centre for Adult and Continuing Education, University College Cork.



Shane Kilcommins is a senior lecturer in law at UCC. His recent books include *Criminal Law in Ireland* (2010 Clarus Press), *Terrorism, Rights, and the Rule of Law* (2008 Willan Publishing) and *Crime, Punishment and the Search for Order in Ireland* (2005, IPA). He completed an MA in Teaching and Learning in UCC on signature pedagogies and legal education in 2007.



### KEYWORDS

Outcomes logic model; integrative learning; Irish; interdisciplinary; Kellogg Foundation

### ABSTRACT

**Background:** The resources, needs and implementation activities of educational projects are often straightforward to document, especially if objectives are clear. However, developing appropriate metrics and indicators of outcomes and performance is not only challenging but is often overlooked in the excitement of project design and implementation. The authors will show how this problem can be addressed using the Irish Integrative Learning Project (IILP) as an example. The goals of this NAIRTL-funded project are to help students become integrative thinkers and learners. Educational capacity is being addressed through fourteen multi-institutional and multi-disciplinary teaching initiatives to act as stimuli for furthering Integrative Learning in Ireland.

**Aims:** The purpose of this paper is to demonstrate how Outcomes Logic Model (OLM) can help develop clarity of thinking and targets in educational projects.

Method: OLM is a systematic visual way to present a planned programme with its underlying assumptions and theoretical framework. OLM allows us to describe, share, discuss and improve programme theory, in words and pictures. It can be used at any stage, during design, planning, implementation, evaluation and reporting. It can strengthen the case for programme investment (grants). It can also reflect group processes and change over time.

Results: We will present our completed OLM for the IILP using the OLM framework. While outputs are relatively easy to develop, measurable short and long-term outcomes pose significant challenges.

## INTRODUCTION

*“Government likes to begin things — to declare grand new programs and causes. But good beginnings are not the measure of success. What matters in the end is completion. Performance. Results.”* (The Kellogg Foundation, 2001).

In this era of ‘scientific education’ research, funding bodies and employers are demanding evermore transparency and accountability, in addition to evidence of effectiveness, efficiency and good educational practice. For these reasons, educators need a structured, systematic approach to developing, implementing and evaluating educational research projects.

The Irish Integrative Learning Project (IILP) was developed as a NAIRTL-funded, multi-institutional, multi-disciplinary research project to promote small-scale research that sought to foster students’ integrative learning in higher education institutions in Ireland. The project planned to develop and sustain a learning community of teachers who investigate and document examples of students’ integrative learning, and who produce clear and practical integrative learning resources for all teachers. The project initially involved eighteen academics (sixteen Irish members and two international Associate Members), three collaborating institutions (University College Cork, Waterford Institute of Technology and the Law Society of Ireland) and eleven disciplines (Art History, Arts and Drama, Applied Maths, Economics, Geology, Law, Occupational Therapy, Paediatrics, General Practice, Nursing and Zoology (Appendix 1, Table 2).

The aim of this paper is to introduce the Outcomes Logic Model concept and describe how it was used to envisage, design, develop, implement and evaluate the Irish Integrative Learning Project. The objectives were to provide guidance and support for the project participants as well as coordinate dissemination of their research findings.

## THE OUTCOMES LOGIC MODEL (OLM)

The Outcomes Logic Model was developed by the W.K. Kellogg Foundation (2001) to serve as a platform for all its research applications. It is a framework for organising thoughts and for guiding the researcher through the structure and purpose of the project and documenting to what extent important outcomes are achieved. The OLM also helps stakeholders to know what the project is intended to deliver and what impact it is intended to create (Alter and Murty, 1997; Conrad and Randolph, 1999; Hernandez, 2000; Julian, 1997; McLaughlin and Jordan, 1999; Stinchcomb, 2001; Unrau, 2001). The importance of having *a priori* measurable research outcomes in any educational project (i.e. ‘designing the project backward’) is emphasised in this approach. The OLM that was used from the outset of the Irish Integrative Learning Project is presented in Appendix 1 (Table 1). The template consists of five columns, derived from three broad themes: **Antecedents** (resources, context and stakeholders of the project); **Process**

(activities needed to implement the project) and **Evaluation** (outputs, outcomes and impacts of the project).

This OLM approach encouraged us to clarify the objectives of the project, and articulate what exactly we were trying to achieve and how we would measure the impact. We used collaborative workshops to build a shared meaning of integrative learning as a theoretical concept, to list the key attributes of an integrative learner, and to explore the implications for curriculum design. In addition, we re-examined the objectives as set out in the initial project proposal, discussed and collated the disciplinary research initiatives, and re-identified meaningful and measureable outcomes with realistic timelines.

We noted that promoting integrative learning involves an approach to curriculum design and pedagogy that is intended to help learners make connections between their sometimes fragmentary learning experiences. Integrative learning *“comes in many varieties: connecting skills and knowledge from multiple sources and experiences; applying theory to practice in various settings; utilizing diverse and even contradictory points of view; and, understanding issues and positions contextually”* (Huber and Hutchings, 2004, p. 13). As our workshop series progressed, we realised we were beginning to become more integrative in our own thinking, and more intentional in our curriculum planning for integrative learning. These discussions helped develop a language for integrative learning, and opened up more questions for the group such as: How will I assess integrative learning in my discipline?

We agreed that with modularisation and increased mobility students can have fragmentary learning experiences in their third level education. As a result, they may fail to make meaningful connections within and between subjects and disciplines. If knowledge becomes ‘troublesome’ students may have difficulty grasping the key disciplinary concepts - threshold concepts - that are essential for their development (Meyer and Land, 2003). When learning becomes integrative, threshold concepts can be negotiated by students, allowing them to advance in the construction and application of their knowledge. The whole Irish Integrative Learning Project was underpinned by a concern expressed by Klein (2005, p. 10): *“The answers students seek and the problems they will need to solve as workers, parents and citizens are ‘not in the book’.* We wished to build students’ capacities to connect-up and integrate their learning by providing opportunities that encouraged all students to carry their disciplinary skills from one learning landscape to another. The recurring question was: How can we help students to think and link - make connections and become integrative learners?

Having identified some of the challenges of the integrative learning concept, the OLM encouraged us to identify our target audience, potential stakeholders and our assets (Appendix 1, Table 1). We began to realise that our audience was in many ways ourselves, the educators. We were largely novice but self-motivated learners of the concept of integrative learning. Potential stakeholders included our institutions, disciplines, departments and colleagues, but our students were deemed our most important stakeholders. We explored questions they might ask and assumptions we might be making about them.

Our most important assets were the broad and diverse experiences of the project participants, and the prospect of multi-institutional and interdisciplinary interactions. It was decided that the work of these participants should include consideration of curriculum-design, pedagogy, assessment, public policy and community involvement. Recognizing the limited protected time available to participants for educational research, we expected the disciplinary initiatives would address questions that could be explored as part of the everyday work, and within the classrooms of the various participants. Thus,

our projects were subject-centred and authentic as advocated by Kreber (2007).

Thinking strategically and systematically, through the OLM approach, we identified a number of influential factors that could determine the success of our project. We noted the resurgent emphasis on the scholarship of teaching and learning in our institutions. This was an influential driver for the project. A competitive NAIRTL grant award (€20,000) was essential in driving the project. At participant level there was a desire to improve the students' experience by helping them overcome the potential fragmentation as a consequence of modularisation and mobility.

In implementing the Irish Integrative Learning Project, we referred to good practices used by other groups (Carnegie Academy for the Scholarship of Teaching and Learning, and the Centres for Integrative Learning in the University of Nottingham and Active Learning in the University of Gloucester in the UK). The project leaders' main functions during the twelve month implementation period, were to maintain the management plan, revise time-lines, and sustain connections with and between the participants through structured meetings, e-mail, web-postings and dialogue on the NAIRTL/IILP website. As an essential driver, the concept of Critical Friends was introduced at an early stage. A critical friend is a trusted person who asks provocative questions, allows research data to be examined through another lens, offers critique of a person's work and is an advocate for the success of that work. (Costa and Kallick, 1993). Participants were matched as potential critical friends, according to practicality, compatibility and availability. Reports and reflections on the contacts between critical friends were posted to a project workspace on the NAIRTL website. Prof. Alan Booth, an international associate, was invited to critique and support the individual project participants through one-to-one meetings.

It was essential, during each project workshop, to familiarise ourselves with the distinctions between outputs, outcomes and impacts as conceived by the OLM. An Output is the number of 'what was created and what was delivered' by the activities of the project. We had no problems in documenting outputs (Appendix 1, Table 1). Relevant outputs include NAIRTL reports and documentation of the disciplinary research initiatives in the form of book chapters, journal articles, and a planned symposium to disseminate the findings and expand the integrative learning network. Newly designed course assessments and rubrics, developed by the project participants are outputs and are being made publicly available.

An Outcome refers to a behavioural change in people (knowledge, attitudes or skills) of an organisation, in this case engendered by the Irish Integrative Learning Project. Staff development, and the impact that has on student learning, were the most important short-term outcomes of this project. The participants have connected with other academics institutionally, nationally and internationally. The research projects, the new knowledge and understandings generated, and the motivation to complete and continue, showed that participants were transformed in small but significant ways by their involvement in the Irish Integrative Learning Project (Appendix 1, Table 3). In their writings, researchers showed a deepening understanding of the nature of integrative learning, and how it can be promoted. They developed a new language with which they can debate, consolidate and disseminate their teaching practice. They have become more intentional in their teaching, and are documenting the elements and activities that nurture students' learning. Pedagogies and teaching strategies known to provide rich opportunities for integrative learning, including problem-based learning, reflective-portfolios and critical friends, are being used (Appendix 1, Table 1). They pursued scholarly approaches to collecting and analysing evidence for 'opportunities to connect' in

their research projects. They have shared these insights and ideas as well as strategies to clarify their pedagogical goals and how connections can be strengthened at multiple levels. They have observed important changes in student behaviour as a result of their integrative learning activities (Appendix 1, Table 3).

The most important and the most difficult outcomes to measure for any project are its impacts or seven to ten year outcomes. Our most important outcome was the bringing together of a diverse, multi-institutional, multi-disciplinary group of participants: in other words the development of a learning community of integrative learning teachers and educational researchers. We expect that there will be increasing inter- and intra-faculty discussions that will advance institutional understanding and the value of this integrative learning community. We believe that the understandings gained by teaching staff in this project will continue to enhance student autonomy, allowing them to continue to make valuable connections throughout their lives.

In its essence, the OLM is a tool to promote better thinking and to plan with the end in mind. It has kept the Irish Integrative Learning Project focused and on track. It has reminded the participants to 'Clarify Your Outcomes First', and to strive to maintain alignments between the project's aims, process and outcomes. Finally, as recommended by Huber and Hutchings (2004), the OLM enabled us to catalyse and encourage teachers into the 'big tent' of the Scholarship of Teaching and Learning, by valuing small efforts based on reflection of one's own teaching and sharing what is learned.

## REFERENCES

- Alter, C. and Murty, S. (1997). "Logic modeling: A tool for teaching practice evaluation", *Journal of Social Work Education*, vol. 33, no. 1, pp. 103-117.
- Conrad, K.J. and Randolph, F.L. (1999). "Creating and using logic models: Four perspectives", *Alcoholism Treatment Quarterly*, vol. 17, nos 1-2, pp. 17-32.
- Costa, A. and Kallick, B. (1993). "Through the Lens of a Critical Friend", *Educational Leadership*, vol. 51, no. 2, pp. 49-51.
- Hernandez, M. (2000). "Using logic models and program theory to build outcome accountability", *Education and Treatment of Children*, vol. 23, no. 1, pp. 24-41.
- Huber, M.T. and Hutchings, P. (2004). "Integrative learning: mapping the terrain". Stanford, CA, Association of American Colleges and Universities the Carnegie Foundation for the Advancement of Teaching [online]. Available from: <http://www.carnegiefoundation.org/publications/integrative-learning-mapping-terrain> [accessed 15 June 2009].
- Julian, D.A. (1997). "The utilization of the logic model as a system level planning and evaluation device", *Evaluation and Program Planning*, vol. 20, no. 3, pp. 251-257.
- Kreber, C. (2007). "What's it really all about? The scholarship of teaching and learning as an authentic practice", *Int J SoLT*, vol. 1, no. 1, pp. 1-4. Available from: <http://www.georgiasouthern.edu/ijsoitl> [accessed 15 June 2009]
- McLaughlin, J.A. and Jordan, G.B. (1999). "Logic models: A tool for telling your program's performance story", *Evaluation and Program Planning*, vol. 22, no. 1, pp. 65-72.
- Stinchcomb, J.B. (2001). "Using logic modeling to focus evaluation efforts: Translating operational theories into practical measures", *Journal of Offender Rehabilitation*, vol. 33, no. 2, pp. 47-65.
- Unrau, Y.A. (2001). "Using client exit interviews to illuminate outcomes in program logic models: A case example", *Evaluation and Program Planning*, vol. 24, no. 4, pp. 353-361.
- W.K. Kellogg Foundation (2001). W. K. Kellogg Foundation Logic Model Development Guide. Available



from: <http://www.wkkf.org/> [accessed 17 February 2010].

#### IILP PARTICIPANTS

**Irish Members:** Daniel Blackshields, Maura Butler, Sinead Cenneely, John Considine, James Cronin, Bettie Higgs, Martina Kelly, Tom Kelly, Shane Kilcommins, Pat Meere, Marian McCarthy, Michael O'Callaghan, Walter O'Leary, Catharine Pettigrew, Tony Ryan, Nuala Walshe.

**International Associate Members:** Brendan Hall, Centre for Excellence in Active Learning, Gloucester University UK; Alan Booth, Centre for Excellence in Integrative Learning, Nottingham University, UK.

#### Address for Correspondence

Professor Tony Ryan  
Department of Neonatology  
Cork University Maternity Hospital  
Wilton, Cork  
Tel: 353 21 4920525  
Email: [tonyryan007@gmail.com](mailto:tonyryan007@gmail.com)

#### APPENDIX 1

**Table 1: Outcomes Logic Model for the Irish Integrative Learning Project**

1. Resources	2. Activities	3. Outputs	4. Outcomes Short-Medium Term	5. Impact Long-Term Outcomes
Definitions of integrative learning Shared Meaning of integrative learning Context of IILP Content of IILP Why integrative learning now? The specific aims and objectives? The Stakeholders? Assumptions about Participants & Students? NAIRTL Grant	Preparatory work 5 one day workshops Invited speakers Discussion in workspace on Web-page E-Learning Critical Friends Planning symposium Writing chapters for book Writing reports Project evaluation	Number of Participants (18) One-day workshops (5) Disciplinary initiatives (14) Students affected 1000 (estimate) National/international presentations (6) NAILTL reports (2) Book Chapters (12) providing a resource for staff Published papers (3) Hours of teaching New Learning & Assessment Materials Founding of Integrative Learning Community	14 research initiatives showing evidence of: Changes in pedagogical style & content New knowledge & understandings created (teachers and students) • Student centered teaching • Student engagement • Integrative learning capacity building	National & International Multi-disciplinary IL Learning Community Discipline-based programmes with IL as an explicit goal Students carrying and using integrative approaches beyond their formal training

**Table 2: List of Participants, Disciplines and Integrative Learning Projects**

Participant	Project Title
Daniel Blackshields Economics, UCC	Student Reflective Journals: Scaffolding an Autobiographical Approach to Economics Education
Maura Butler Law Society of Ireland	The Confluence of Professional Legal Training, ICT and Language Learning Towards the Construction of Integrative Teaching and Learning
John Considine Economics, UCC	Integrative Learning Through Student Behaviour on Assessment
James Cronin History of Art, UCC	Investigating patterns of new literacy: The assumptions we make about university entrants into a discipline.
Bettie Higgs Geology, UCC	Using Threshold Concepts to Build Capacity for Integrative Learning in First Year Science (UCC)
Martina Kelly Medical School UCC	Case records as a means of integrated assessment in Medical Students
Tom Kelly & Michael O'Callaghan Zoology, Ecology, and Plant Science, and Applied Math, UCC	The application of applied Mathematics to Biology: an Integrative Learning Project
Shane Kilcommins Law UCC	The Use of Learning Journals in Legal Education
Marian McCarthy Education, UCC	The Arts in Education as an Integrative Learning Approach
Pat Meere Geology UCC	Integrative Learning in Geology
F. Catherine Pettigrew Speech & Language, UCC	Facilitating learning by integrating knowledge and skills from different sources: Speech and Language Therapy students' perceptions
Walter O'Leary & Sinead Cenneelly Law, WIT	Problem Based Learning on a new degree programme
Tony Ryan Medical School, UCC	Drawing on Medical Students drawings to illuminate concepts of Humanism and Professionalism
Nuala Walsh School of Nursing, UCC	Integrative Learning in Nursing Studies

**Table 3: Impact of integrative learning experiences on group participants, captured during the fourth Integrative Learning Project workshop.**

Teachers no longer afraid of loss of control	You have no idea of where the students are going to go. You realise the importance of letting go of control. I no longer am afraid when I don't know everything. It excites me when students know something I don't know.
Guidance of students	You realise the importance of getting students into the mindset – scaffolded, prompted, guided by us. I have become more facilitative- more aware of my function as a role model.
Self-development as an Integrative Teacher	Now I am more strategic in my preparation. I ask “What do I want them to know, and why?” Achieving higher order thinking is rewarding to the teacher as well as student. I have become more metacognitive in terms of my teaching. As a teacher, I'm not done with learning yet! If we want our students to change, we, as educators, must also change. We can help students to make connections & integration through an intentional, democratic approach to teaching. We need to recognize the importance of context. We need to change our assessment methodologies. We must try to identify discipline specific Threshold Concepts.
Teacher observations on students, following integrative learning experiences	Student attendance has increased; their confidence and interest has increased. Students who were not turning up – are now turning up. I was observing the students more, and how they reacted. We tried it [integrating Maths and Zoology]. We saw an excitement, a buzz. There is a lot of overlap between what we got out of it and what the students got out of it. I would never have done that before [I now explain what I want them to do with their reflective journals]. Student said “It was my first time ever that I had used economics” When you have used it, it is yours forever. Students can be confused by integrative learning if there is a misalignment between theory and practice, if there is a disconnect.